

# Revolutionizing Page Naming with Semantic Properties

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# MITRE Gestalt Framework

- Set of extensions and patterns of use for constructing *web-based social semantic knowledge applications* based on MediaWiki and Semantic MediaWiki
  - Promotes findability, reuse, and analytics
  - Accelerates knowledge capture across linked encyclopedias
  - Contributing open source semantic extensions

## Extension:Title Icon

The **Title Icon** extension places an icon to the left of the page title when the title is displayed at the top of the page and when the page is listed in search results. Display of such an icon can help users easily visually detect that a page is in a particular category. This helps on the page itself, but also helps when trying to pick out the correct page from a list of search results.

The icon is specified by a semantic property of type Text that indicates the filename of an image file uploaded to a wiki page. The icon is displayed next to the page title.



Title Icon will insert the icon in the title at the top of a page for any skin that puts the title in an HTML element with id "firstHeading" such as the default Vector skin. This extension uses the `[[Category:Title Icon]]` category.

MediaWiki extensions manual - list


Title Icon	
Release status: stable	
<b>Implementation</b>	User interface
<b>Description</b>	Displays an icon to the left of the page title at the top of the page and in search results. Often used to help users easily recognize pages in a particular category.
<b>Author(s)</b>	Cindy Cicalese (cindy.cicalese <sup>sm</sup> )
<b>Last version</b>	1.0 (2013-10-17)

## Extension:Semantic Rating

The **Semantic Rating** extension adds a **Semantic Forms** input type to allow users to enter a five star rating in a form by clicking on the stars. It also adds a parser function to display a number between 0 and 5 as a five star rating. The parser function is capable of displaying empty (gray), full (yellow), and half stars.

**Contents** [\[hide\]](#)

- 1 Installation
- 2 Examples
  - 2.1 Defining a Field in a Semantic Form
  - 2.2 Displaying a Number as a Five Star Rating



Ins `{{#rating:5}}`

- Download and extract the files in a directory called `SemanticRating` in your `extensions/` folder.
- Add the following code at the bottom of your `LocalSettings.php`:
 

```
require_once "$IP/extensions/SemanticRating/SemanticRating.php";
```
- **Done** – Navigate to "Special:Version" on your wiki to verify that the extension is successfully installed.

**Examples** [\[edit source\]](#)

**Defining a Field in a Semantic Form** [\[edit source\]](#)

```
{{#field:Rating|input type=rating}}
```

MediaWiki extensions manual - list

Semantic Rating	
Release status: stable	
<b>Implementation</b>	User interface, Parser function
<b>Description</b>	Adds a Semantic Forms input type to allow users to enter a five star rating in a form by clicking on the stars; also adds a parser function to display a number between 0 and 5 as a five star rating.
<b>Author(s)</b>	Cindy Cicalese (cindy.cicalese <sup>sm</sup> )
<b>Last version</b>	1.0 (2013-10-22)
<b>MediaWiki</b>	1.21+
<b>PHP</b>	5.3+
<b>Database changes</b>	No
<b>License</b>	MIT
<b>Download</b>	<a href="#">Download snapshot</a> (Git master) <a href="#">Git [?]</a> <ul style="list-style-type: none"> <li>• repo summary</li> <li>• tree</li> <li>• code changes</li> </ul>
<b>Hooks used</b>	<a href="#">[Expand]</a>
Check usage and version matrix <a href="#">[?]</a> , Rating stats <a href="#">[?]</a>	

# Issues with Traditional Page Names

- **Often it is difficult to choose a single meaningful page name**
  - There may be no single, unchanging, descriptive text string that indicates what is on the page
  - You may want to combine the values of several semantic properties to create a unique name
- **Page names cannot contain certain special characters**
- **Page names cannot be easily changed**
  - Requires a redirect or changing all references to the page

**Changing the approach to page naming has wide ranging implications because page naming is a fundamental part of the MediaWiki code and extension code**

# Requirements of a New Semantic Approach to Page Naming

- **You should be able to continue to use traditional page names where that makes sense**
- **For semantically-named pages:**
  - The text used for the page title should be auto-generated, requiring no end-user thought
  - This auto-generated page title is used to uniquely identify a page in the page URL and in wikitext
  - One should be able to specify a semantic property to form a user-friendly page name
  - The end user should see the user-friendly page name rather than the page title:
    - Link to a page
    - Mention of a page by name
    - Semantic Forms field
    - On the page itself

# How Does this Complement the Use of Namespaces and Subpages?

- **Using separate namespaces and subpages can also be helpful:**
  - Prevent name collisions
  - Help make it easier to find/manipulate/refer to pages of a particular class
    - e.g. search in a single namespace
  - Help denote relationships between pages
    - e.g. a review page could be a subpage of a page indicating the page the review refers to
- **Namespaces and subpages do not address:**
  - Page names including special characters
  - Ease of renaming pages
- **We do make heavy use of namespaces and subpages in addition to semantic page naming**
- **Namespaces are used by SemanticTitle**

# Creating a Page Using Semantic Forms One-Step Process

- Create button:

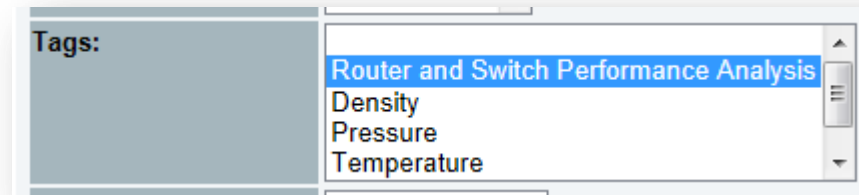
```
{{#formlink:form=Dataset|tooltip=Add a Dataset|query  
string=namespace=Dataset|link text=[[File:Add_Dataset.png|32px|link=]]}}
```

- Auto-generate page title in form:

```
{{{info|page name=<unique number;start=1>|create title=Add Dataset}}}
```

# SemanticFormsDisplayTitle\*

```
{{{field|Tags|input type=displaytitle|query=((Category:Tags))  
|label_property=Name|size=5|limit=1000|list}}}
```



*\*MITRE Gestalt Framework extension to be submitted as open source*

# SemanticFormsUniqueValue\*

```
{{{field|Name|input type=uniquevalue|size=100|propertyname=Name|query=((Category:Datasets))}}}
```



## Add Dataset



There were errors with your form input; see below.

Save page

Name:

Data 2010

<duplicate value>

Description:

**B I**



Advanced

Special characters

Help

*\*MITRE Gestalt Framework extension to be submitted as open source*



# SemanticTitle

- **Open source extension authored by Van de Bugger**
  - <http://www.mediawiki.org/wiki/Extension:SemanticTitle>
  - We needed to make two modifications to get it to work for us
- **The wiki developer specifies a semantic property to be used as the user-friendly page name for pages in a given namespace**
- **When a link to a page is displayed, *if alternate link text has not been provided*, SemanticTitle converts the link text to the user-friendly page name**
  - A fix we needed to make to correctly handle semantic query results breaks the override capability

# SemanticTitle: Specifying Naming Property

```
$egSemanticTitle = array(  
    NS_USER => 'Name',  
    NS_TGE_DATASET => 'Name',  
    NS_TGE_METHODODOLOGY => 'Name',  
    NS_TGE_MODEL => 'Name',  
    NS_TGE_ORGANIZATION => 'Name',  
    NS_TGE_OUTCOME => 'Name',  
    NS_TGE_PERSON => 'Name',  
    NS_TGE_PROJECT => 'Name',  
    NS_TGE_REPORT => 'Title',  
    NS_TGE_TAG => 'Name',  
    NS_TGE_READING_LIST => 'Name',  
    NS_TGE_REVIEW => 'Summary'  
);
```

# Sorting Category Pages by User-Friendly Name

- Use DEFAULTSORT in your template to have category listings in the correct order:

```
{{DEFAULTSORT:{{{Name}}}}}
```

```
{{#set:Name={{{Name}}}}}
```

## Pages in category "Tags"

The following 5 pages are in this category, out of 5 total.

1

- [Temperature](#)

2

- [Volume](#)

3

- [Density](#)

4

- [Pressure](#)

5

- [Router and Switch Performance Analysis](#)

## Pages in category "Tags"

The following 5 pages are in this category, out of 5 total.

D

- [Density](#)

P

- [Pressure](#)

R

- [Router and Switch Performance Analysis](#)

T

- [Temperature](#)

V

- [Volume](#)

# Fixing Semantic Forms Edit Title

- Edit MediaWiki:Sf\_formedit\_edittitle to change from default

Edit \$1: \$2

Edit Tag: Tag:1

to

Edit \$1: {{#semantic-title:\$2}}

Edit Tag: Temperature

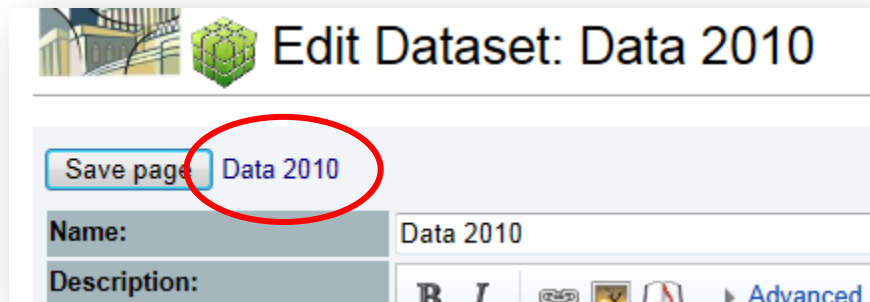
*Requires SemanticTitle extension*

# Modifications to SemanticTitle

- **Currently SemanticTitle does not allow Text properties to be used as the naming property**
  - Simple fix
- **When links to pages that are not in the main namespace are returned from #ask queries, they do not contain the namespace in the link text, so SemanticTitle believes them to be customized and they are therefore not replaced**
  - Hackish fix (maybe the fix needs to be in Semantic MediaWiki?)
- **Is SemanticTitle being actively maintained?**
  - Hasn't been updated since March 2012
  - No response to comments on talk page

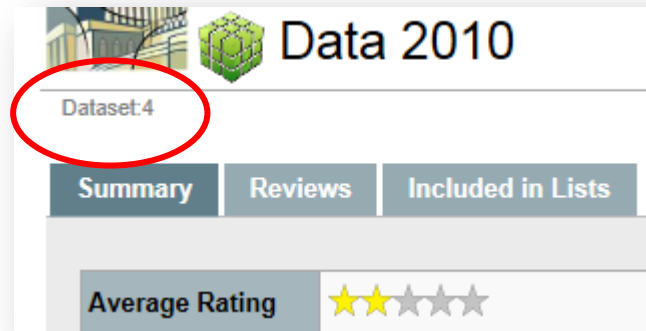
# SemanticTitle Can Be Overzealous

{{{standard input|save}}} {{{standard input|cancel}}}



*may be the result of fix #2*

# SemanticTitle Shows the End User the Real Page Name



# Display of Name of Current Page in Query Result Does Not Work



Christie, Agatha

Average Rating for Christie, Agatha: ★★★★★



DVD

Agatha Christie Marple: the classic m  
A&E Home Video, Petit, Christopher,  
A&E Home Video ; New York : Distrib  
PN1995.9.D4 .A52 2006



Book

Masterpieces in miniture: the detecti  
**Author:14**  
St. Martin's Minotaur. New York. 2005  
PR6005.H66 .M37 2005



Book

Agatha Christie's detectives: five com  
**Author:14**  
Avenel Books. New York. 1982.  
PR6005.H66 .A6 1982



Book

Five complete Miss Marple novels /  
**Author:14**  
Avenel Books : Distributed by Crown  
PR6005.H66 .A6 1980b



Christie, Agatha

Average Rating for Christie, Agatha: ★★★★★



DVD

Agatha Christie Marple: the classic mysteries collection.  
A&E Home Video, Petit, Christopher, **Christie, Agatha**, Gallaccio, George  
A&E Home Video ; New York : Distributed by New Video. [Burlington, VT]. 2006  
PN1995.9.D4 .A52 2006



Book

Masterpieces in miniture: the detectives: stories  
**Christie, Agatha**  
St. Martin's Minotaur. New York. 2005.  
PR6005.H66 .M37 2005



Book

Agatha Christie's detectives: five complete novels  
**Christie, Agatha**  
Avenel Books. New York. 1982.  
PR6005.H66 .A6 1982



Book

Five complete Miss Marple novels /  
**Christie, Agatha**  
Avenel Books : Distributed by Crown Publishers. New York. 1980.  
PR6005.H66 .A6 1980b



# Filtered Result Format Requires Additional Properties

{{#ask: [[Category:Datasets]]

|?Name

|?Description

|?Dataset Type=Type|+filter=value|+value filter height=100px

**|?Tag Names=Tags|+filter=value|+value filter height=100px**

|?Average Rating=Average Review Rating|+filter=value|+value filter height=120px

|format=filtered

...

## Tags

- ☐ Big Data
- ☐ Cloud Computing
- ☐ Health Care

## Behavioral Risk Factor Surveillance System

Average Rating	4.5 + 🔍
Dataset Type	real
Description	The Behavioral Risk Factor Surveillance Sy ... adults, 18 years
Logo Link	Dataset.png + 🔍
Name	Behavioral Risk Factor Surveillance System
Related Projects	Case Adjudication + ⓘ , Ecosystem Analysis + ⓘ
Tag Names	Cloud Computing + 🔍
Tags	Cloud Computing + ⓘ

# Final Thoughts

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- **Using semantic properties for page naming introduces complexity but solves an important problem**
  - You must weigh the difficulty against the benefits
  - The many parts required by the solution make it more difficult to set end users free to edit templates or create queries
  - But, in many cases, the additional complexity is more than worth it